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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,267

12/19/2005

Toru Shiraki

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7590

04/27/2009

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
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ALEXANDRIA, VA 22314

EXAMINER

YOUNG, BRIAN K

ART UNIT

PAPER NUMBER

2819

NOTIFICATION DATE

DELIVERY MODE

04/27/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/561,267	SHIRAKI, TORU	
	Examiner	Art Unit	
	/Brian Young/	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6 and 9 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/19/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 6 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Geen et al (4,839,650) in view of Miyanabe et al (6,804,187).

Geen et al disclose (see fig. 1) a signal-processing unit comprising: an input line that is provided with a plurality of input signal lines (inputs to the multiplexers'); a multiplexer circuit (MULTIPLEXORS, 1 and 2) that transmits said plurality of analog signals from the input line to one signal line in a subsequent stage in a desired sequence; an analog-digital conversion circuit (ADC, 21) that converts an analog signal into a digital signal and outputs it; and a cross talk compensation circuit (cross talk components detailed below) that with respect to each of a plurality of signals having been synchronously inputted to a signal-processing unit having been sequentially outputted from the analog-digital conversion circuit.

Geen et al recite (col. 5, Ins.57-64):

"The offset errors and the **cross-talk errors** are reduced by an auto-zeroing feature involving the changeover switch 3 and the gating circuit 12. Switch 3 operates so that, whenever the auto-zero signal have one value, the polarity of the sample being

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received via the **multiplexer** 1 or 2 is reversed. Meanwhile, each bit of the digital signal from the **converter** 11 is inverted by the gating circuit 12.”

It is noted that Geen et al utilize a memory (MEMORY, 14) for correcting the crosstalk errors, however, do not specifically disclose cross talk correction by calculating a “coefficient between each of a plurality of signals” and “data obtained by multiplying the signals by the coefficients are added up”.

However, Miyanabe et al disclose (see fig. 2) a plurality of input channels (F1, F2, F3) input to ADCs (8, 9, and 10) and a signal processor (6). The signal processor is shown (see fig.3) including a cross talk canceling circuit (CROSS TALK CANCELLING CIRCUIT, 22). The cross talk canceling circuit (22) includes (see fig.9) coefficient calculating units (55 -60) and multipliers (61-66) for multiplying the signals by the coefficients and signal adders for adding up the signals (67 and 68).

Therefore, it would have been obvious to one having ordinary skill in the art, and having these teachings before him, to modify the signal-processing system of Geen et al having a multiplexer circuit and analog-digital conversion circuit which includes cross talk correction, with the cross talk correction signal correction system of Miyanabe et al, because, the use of correction coefficients is a well known, desirable, and accurate method for signal correction and would be easily adaptable to the signal-processing system of Geen et al for the purpose of accurately reducing cross talk. The

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implementation of the cross talk correction system of Miyanabe et al in the multi-channel processing system of Geen et al would not have involved an inventive step nor have produced an unexpected result.

3. **Claims 7,8,10 and 11** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. White and Kessler disclose multiplexed channel processing systems having cross talk correction.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Brian Young/ whose telephone number is 571-272-1816. The examiner can normally be reached on Mon-Fri 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached on 571-272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian Young/
Primary Examiner
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